AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) A method for predicting an increased risk for onset of glaucoma in a subject, comprising assaying for the presence of ~~A gene assay method comprising the steps of: detecting~~ a mutation of at least one nucleotide ~~base~~ in the coding region of an optineurin (OPTN) gene of said ~~a human~~ subject, wherein when said mutation is present, said subject is predicted to have an increased risk for onset of glaucoma~~; and predicting future onset of glaucoma in the subject using the mutation as an index~~.

2. (currently amended) The ~~gene assay~~ method of claim 1, wherein the coding region of ~~said glaucoma related gene is~~ an OPTN gene comprises nucleotides 1 to 1734 of ~~has a nucleic acid sequence denoted by~~ SEQ ID NO: 1.

3. (currently amended) The ~~gene assay~~ method of claim 2, wherein said mutation is a substitution of G for A at position 619 ~~and/~~or a substitution of A for G at position 898, or both, in ~~the nucleic acid sequence denoted by~~ SEQ ID NO:1.

4. (currently amended) The ~~gene assay~~ method of claim 2, wherein said mutation is a deletion of one or more nucleotides in ~~bases in the nucleic acid sequence denoted by~~ SEQ ID NO: 1.

5. (currently amended) The ~~gene assay~~ method of claim 2, wherein said mutation is an insertion of one or more nucleotides in ~~bases in the nucleic acid sequence denoted by~~ SEQ ID NO: 1.

6. (currently amended) The ~~gene assay~~ method of claim 2, wherein said mutation is two or more substitutions of nucleotides in ~~bases in the nucleic acid sequence denoted by~~ SEQ ID NO: 1.

7. (currently amended) The ~~gene assay~~ method according to claim 1, wherein ~~the~~ said glaucoma is primary open angle glaucoma ~~and/~~or normal ocular tension glaucoma, or both.

8. (currently amended) The ~~gene assay~~ method according to claim 1, wherein ~~the~~ said assay is carried out ~~mutation is detected by~~ using an oligonucleotide that hybridizes to a selected portion ~~capable of forming a hybrid at a specific position~~ of the coding region of the OPTN gene.

9. (canceled).

10. (currently amended) A ~~gene assay~~ method for predicting an increased risk for ~~future~~ onset of primary open angle glaucoma ~~and/~~or normal ocular tension glaucoma, or both, in a subject, comprising ~~the steps of~~:

~~(a) isolating a polynucleotide sample from a subject suspected of having a mutation in a glaucoma-related gene,~~

(a~~b~~) performing a nucleic acid amplification process on a polynucleotide sample from a subject ~~said polynucleotide~~ using at least one oligonucleotide primer pair, wherein said primer oligonucleotide pair comprises a member selected from the group consisting of ~~oligonucleotides comprising sequences as follows~~:

(1) an oligonucleotide primer pair consisting of nucleotide sequences ~~a base sequence~~ represented by (i) 21 and 22, and (ii) 27 and 28~~any of SEQ ID NOs: 15 to 40~~;

(2) an oligonucleotide primer pair wherein each member of said pair is a complement of one member ~~a complementary chain~~ of an oligonucleotide primer pair according to (1);

(3) an oligonucleotide primer pair wherein each member of said pair ~~that~~ hybridizes with one member of an oligonucleotide primer pair according to (1) or (2) under stringent conditions;

(4) an oligonucleotide primer pair wherein each member of said pair has ~~having a~~ homology of 60% or more to a respective member of ~~to~~ an oligonucleotide primer pair according to any one of (1) to (3)~~.~~; and

(5) an oligonucleotide primer pair according to any one of (1) to (4) wherein each member of said pair has at least one nucleotide ~~having one to several bases mutated by~~ substitution, deletion, insertion or addition mutation,

(b~~e~~) detecting a mutation of at least one ~~base~~ nucleotide in the coding region of the amplification product of (a)~~a glaucoma related gene~~; ~~and~~

~~(d)~~ wherein when said mutation is detected, said subject is predicted to have an increased risk for onset of primary open angle glaucoma or normal ocular tension glaucoma, or both ~~predicting future onset of primary open angle glaucoma and/or normal ocular tension glaucoma using the mutation as an index~~.

11. (canceled).

12. (new) The method according to claim 10, wherein said at least one oligonucleotide primer pair amplifies a selected portion of the coding region of an OPTN gene comprising nucleotides 1 to 1734 of SEQ ID NO: 1

13. (new) The method of claim 12, wherein said mutation is a substitution of G for A at position 619 or a substitution of A for G at position 898, or both, in SEQ ID NO:1.